MODERN STREET CLEANING IGNORED IN AMERICA

Our Streets Cannot Be Compared With Those in Cities of Europe---Proper System and Apparatus Overlooked by Officials Here

By FRANK KOESTER.

PERHAPS the most striking difference noticed by the American tourist abroad between American and European cities is the cleanness of the streets of the latter, particularly in such places as Berlin and Dresden.

Clean streets, as the term is understood abroad, are unknown in the cities of the United States. The dirtiness of our streets both in summer and winter, with their clouds of dust charged with disease germs and filth of all kinds, makes walking almost intolerable and imposes on storekeepers and housekeepers a burden of cleaning that is far more expensive in the aggregate than would be the proper and systematic cleaning of the streets.

Only occasionally when the streets are locally flushed can the conditions of our streets be compared with those abroad, where street cleanliness is one of the first principles of city administration.

Yet by the use of proper methods and apparatus the streets of a city may be kept clean within reasonable limits of expense.

In the establishment of such systems, however, the initial step must be taken in the construction of the street itself. It must be a form of street which can be kept clean. The second step is in keeping the street when once constructed in a perfect state of repair, so that it will always be in such a condition that it can be cleaned.

After laying the expensive asphalt or wood block street the authorities in American cities seem to feel that their whole duty has been performed. The street is immediately left to the mercy of traffic and the elements and nothing more is done until some serious repairs become necessary.

A very different process is followed in European cities, which consists in protecting the street and in facilitating the traffic, so that much greater service is got out of a street than is the case in America.

The principal expedient adopted is to sprinkle or cover the street lightly with various substances whenever weather conditions or other reasons require it.

Sand is much used for the purpose, and is scattered over the streets in a number of ways. Sometimes a man with a trowellike tool, carrying a bag of sand suspended from his neck, sows the street with the sand after the manner of a farmer sowing grain broadcast. Other methods of distributing the sand are by means of small boxlike carts and shovels, one man pushing the cart and another sowing the sand. The cart is often the same used for collecting refuse.

The sand sower gains considerable skill and works with such rapidity that the cost of the work is insignificant in comparison with the benefits derived. A skilful man can cover 80,000 to 100,000 square feet an hour, or half a mile of ordinary street. The sprinkling of the sidewalks may be left to the householders.

The method with shovels and cart is not expeditious, since the sand in such cases is spread more thickly. There are also automatic sand sowing machines of different types which are more rapid.

Among other materials used are a coarse sand or very fine gravel and fine stone particles. All such material should be dry and perfectly clean and free from dirt or impurities which would prevent free scattering or subsequently cause dust. Ashes are used only in case of an emergency.

The material for street sowing is kept in boxes, holding from one to three cubic yards, in convenient locations, being thus at hand whenever needed for use.

Applications are made when the streets are covered with ice, sleet or frozen snow, in the case of cold drizzling rains, when the weather conditions are such that the streets will not readily dry. A twofold object is attained by such sowing; the slipperiness of the street is overcome and safety for vehicles and pedestrians assured and the surplus water is absorbed by the sand so that it does not lie and rot the surfacing.

Thus the greatest objection to asphalt streets, their slipperiness, is obviated.

As streets are flushed only at times when the water will readily dry off there is no occasion to sand the streets after flushing.

In good weather asphalt and wood block streets are treated with an oil emulsion. Applied five or six times during the summer all the desirable results are accomplished that follow from a daily watering.

Street sweeping in winter, a difficult work owing to the cold dust stirred up, is accomplished in an efficacious manner by first sprinkling the streets with a chloride of calcium solution, which lays the dust and so melts the frozen dirt that the street sweeping machines can accomplish their work.

The cleaning of streets to be properly carried out should be under the supervision of engineers of experience, as where the work is put in the hands of mere politicians as a sort of good fellows' job the results, as seen in so many American cities, are about what could be expected.

The lack of system and want of technical training on the part of the officials in charge makes street cleaning unnecessarily expensive, leaves the streets in a bad condition and causes the cleaning to be carried out in a disagreeable and unsanitary way.

In foreign cities engineers specialize on this subject. Street cleaning has been reduced to a science and economy, efficiency and the comfort and convenience of the public are considered at every point.

The purpose of street cleaning is to remove as quickly and as cheaply as possible all foreign matter in the streets and thus to conduce to the health of the public by minimizing the circulation of germ laden dust.

The cleaning of streets should be carried out in a systematic and thorough manner. The cleaners should proceed in crews, with the necessary apparatus both to clean the streets and the sidewalks as well if necessary, and the layout of the work should be such that no member of the crew needs to wait on the progress of the other, but all proceed simultaneously and when they have passed through the street the work will be done. The method of piecemeal street cleaning with the householder sweeping dirt into the street, the street cleaner sweeping it into piles and the piles being removed by wagons, with the occasional passing first on one side of the street and then on the other of some piece of street cleaning apparatus, results in a continual stirring up of dust to the great discomfort and inconvenience of all concerned, while the street never really gets cleaned.

The number of men in the cleaning crew depends on the kind of machinery used. As no machine is capable of reaching all parts of the street, a certain amount of manual sweeping is necessary, especially when the sidewalks are cleaned in conjunction with the machine sweeping, so that as indicated the whole width of the street will be cleaned at once.

In order that such cleaning may proceed with efficiency and despatch, and consequently with economy, the streets must be practically clear of traffic, as the presence of vehicles, especially those standing at the curb, greatly delays the work of the crew.

As the operation of such a crew also handicaps traffic and as the public prefers to see the streets clean, rather than to select a suitable hour for cleaning, German cities have conducted numerous tests for finding out the most favorable hour. The city of Dresden adopted the practice of cleaning the main streets in the early morning hours, beginning about 4 o'clock and finishing the business sections by 6 o'clock, some 20 to 30 per cent. of the entire street area. The cleaning of the remainder of the streets proceeds immediately after the main streets are finished, and the whole city is cleaned by 9 A. M. Only streets in outlying districts are cleaned later in the day, often in the afternoon, but all streets must be cleaned once a day, whether there is much dirt or little on them.

The practice of Dresden has been followed by practically all prominent German cities. Some of those of less importance, owing to conditions of light traffic, continue the old methods, but the larger cities have been forced to adopt the early morning plan. The advantages of the system are that the cleaning can be carried out by daylight and is consequently better performed than when carried out under artificial light, that the workmen are more efficient as day workers than as night workers, and that during the early morning hours the traffic is at the minimum.

It is essential that the sidewalks and the other adjoining spaces be cleaned before the crews pass through the street, as otherwise the cleaning would not be thorough. Cities should therefore clean the sidewalks in business districts owing to the early visits of the crews, while house owners in the residential districts which are visited from 6 to 9 o'clock by the cleaners are required to have the streets in front of their houses cleaned and ash and refuse cans ready for removal by a scheduled time, under penalty of a fine. No refuse may be placed on the sidewalk, but must be kept on the householders' premises in such places as will not cause annoyance to the neighbors. As the street cleaning crews may be expected at a fixed time daily, the householders are able to make their arrangements accordingly, and thus the whole proceeding is carried out in the most expeditious and convenient manner.

The crews are compelled to work in a manner as unobjectionable as possible, with a minimum of dust raising and noise making.

Conditions of such a kind can only be brought about when the department itself is efficiently administered by capable and technically trained officials, who devote their time and energies to the duties in hand and not to political activity and experimental devices, and when regulations are such that the householders are compelled by law to cooperate with the department.

In the removal of snow, American cities are chronically slow, having an abiding faith in a favorable change of weather. The ever ready excuse is that not enough men and wagons are obtainable, but in reality the reason is more frequently executive incompetency, policy and lack of system.

While the problem is somewhat difficult in America, on account of the heavy falls of snow, our cities are financially well situated to handle the matter so that failure is only due to lack of proper preparations and absence of systematization.

A highly effective plan for the removal of snow is that of dumping it into sewers, as has been noted. Precautions must be taken not to dump or sweep into the sewers with the snow any matter liable to settle in the sewers and clog them up, such as street detritus, as the subsequent cleaning of the sewers might prove more expensive than the removal of the snow by some other method. Nor, in removing snow by sewer dumping should the amount of snow dumped in at any one time be sufficient to cause the sewer to become clogged up.

Where sewage pumping plants are installed for elevating sewage, snow should not be dumped into the sewer within some 2,000 feet of the pumping station, as otherwise trouble with the pumps is likely to occur.

The swifter the flow of the sewer, the better it is adapted for purposes of snow removal, which is preferably carried on at night when the ordinary flow of the sewer is at its minimum.

Many American cities are fortunately placed in having large volumes of water at their disposal, which may be utilized in flushing snow and slush directly into the sewer, a process which has many advantages, especially when salt water is available for the purpose.

Perhaps the most urgent of the duties of the Street Cleaning Department is the removal from the streets of the carcases of dead animals, not only on account of the unsightliness of such objects, but also because, especially in summer, they are a menace to health. Singularly enough, in many American cities, including those constantly exploiting their civic improvement plans, there is a lack of cooperation between the police, to whose notice such matters naturally first fall, and the street cleaning departments, so that the carcases remain, often for days, before being removed. It would certainly seem a necessary preliminary to street planning to have the streets free of such impediments.

Street cleaning machinery consists principally of three classes, sprinkling, sweeping and removing apparatus, though there are many forms of combinations of one or more classes in a single piece of apparatus.

The sprinkling apparatus is designed especially for economical use of water, from one-third to one gallon sufficing to cover 1,000 square feet of surface in the best forms of apparatus.

Cleaning apparatus consists of rotary brooms and rotary scrubber and squeegee devices, while the vacuum sweepers are also coming into use.

The removing apparatus is usually in combination with a sweeper or scrubber, the dirt being elevated to the cart by mechanical conveyors or suction.

A form of machine much used in German cities is a gasolene or electrically driven automobile, with a water tank and sprinkler, scrubber and squeegee apparatus and a mechanical conveyor or suction device for carrying refuse to the collecting box. Such a machine is complete and effective. It may also be found as a horse drawn vehicle.

As apparatus of this kind is expensive, some German cities like Duesseldorf utilize a form of electrically driven machinery in which the motive part, the motor, storage battery and controls with chauffeur's seat mounted on the front axle, is a detachable unit, which may be employed in connection successively with various forms of cleaning apparatus, some for summer use and others for winter use.

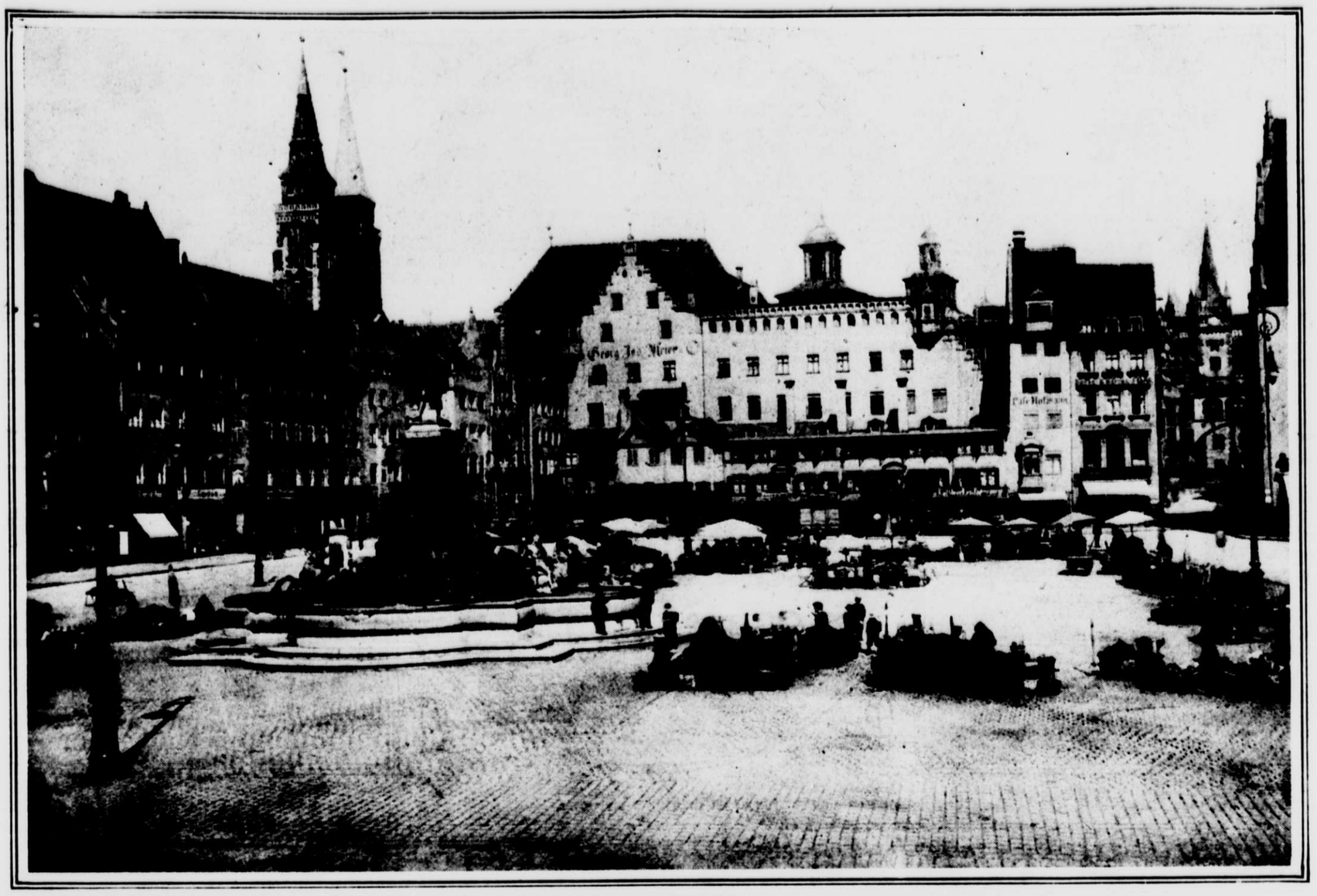
Electrically driven machinery has proved more economical than horses and it is being substituted as rapidly as the old equipment can be disposed of.

When streets and sidewalks are cleaned by hand sweeping there should be provided receptacles of appropriate design and suitable capacity for the reception of the street sweepings awaiting removal. A useful form of such receptacle would be one which could be removed without being emptied, another being left in its place for the next day's sweepings. The same method is equally applicable for small garbage and household refuse, as has been described. Other receptacles for street refuse may be sunk in pits, as also noted. They are made of steel with a dumping bottom and the removal cart is provided with means of lifting them out of the pit to the top of the cart, which is covered with a top having special openings so that the contents of the cans may be dumped into the cart without being scattered by the wind. After being so dumped the cans are lowered again into place in their pits.

In order to avoid handling such cans pits are located in the sidewalk near the curb and the street refuse is swept directly into them, small hinged flaps bridging the gutter. The pit is of course provided with a cover.

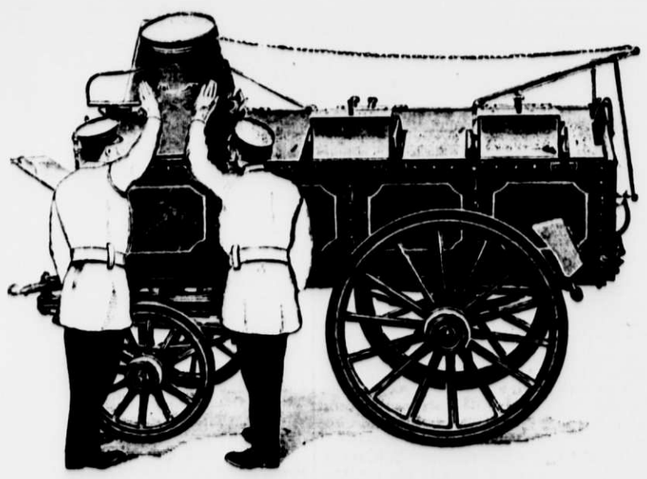
As stated, the removal of street sweepings and garbage refuse should be done in wagons invariably having covers in order to protect the passing public and the workmen from escaping particles. It is better, however, to have it removed in the original cans, leaving empty cans in place, as this is an absolute protection to all concerned and gets the wagons off the streets sooner.

If wagons are used into which the rubbish is dumped they should be of the end dumping type and in some cases it is preferable that the body be detachable so that it may be lifted off by hoisting cranes and dumped at any desired place. This is especially convenient in connection with the work of refuse destruction plants.



Market place at Nuremberg, showing granite block paving—note cleanness of paving during open market.

Dumping contents of a sunken garbage receptacle into the covered removal wagon.



A closed garbage collector.

IN THE LIFE OF A SKIPPER

By JOHN TAYLOR PARKERSON.

A DENSE fog had settled over New York Bay. There was barely a ripple on the water. The Baltic, having on board 1,700 passengers rescued from the ill fated Republic, was proceeding slowly and cautiously toward Quarantine. For more than three days New Yorkers had awaited her coming with the keenest anxiety. The whole world knew the story through the spark gap flashes of the wireless.

A score of small tugs and launches crowded with newspaper reporters played tag around the great black body of the ship. Owing to the stringent Government regulations none of the news gatherers was permitted to board the Baltic until the health authorities of the port had completed their observations.

"Where is Binns—Jack Binns?" impatiently called one of the reporters through a megaphone.

"Yes, where is Binns?" chorused the other reporters. "Send him to the rail!"

But Binns did not appear. Instead he secluded himself in his stateroom and began jotting down with pencil and paper the part he had played in the disaster. The now famous C Q D call which sent the Baltic to the aid of the stricken Republic had made the little wireless operator the man of the hour. The newspapers clamored for his story, and for weeks afterward Binns was plied with flattering offers from vaudeville managers, moving picture concerns and others eager to commercialize his heroism.

Binns had truly come into his own. Long before the Baltic docked he had found time to rest, and so far from being a nervous wreck after his trying experience when the Republic sank he was fresh and smiling when he stepped ashore.

But there was another hero aboard the Baltic who had not been as fortunate as Binns. He was Capt. Joseph Barlow Ranson, upon whose shoulders rested the responsibility of rescuing the Republic's crew and passengers and bringing them safely to port.

This mariner, who had sailed the seven seas in all manner of weather and at the age of 24 had been promoted to a ship's command, admitted for the first time in his life the futility of defying the laws of nature.

"I have been on that bridge for eighty-eight hours," he remarked with a wave of the hand as he descended the narrow stairway leading to his cabin, "and I'll confess it's about all I can do now to stick on my pins."

Eighty-eight hours without sleep and without shelter from an impenetrable fog that drenched and all but blinded him!

"I'll tell you," continued Capt. Ranson, "I've had some thrills in the thirty-eight years I've followed the sea, but this eclipsed them all. Why, there were times when I would have welcomed any personal sacrifice to relieve me of the torture and suffering I was forced to endure had it not been for a realization of my responsibility.

"First there was the twelve hour search for the Republic, zigzagging and circling in the fog, changing our course as each new bit of information came by wireless, and then when within a hundred feet of the ship being unable to see more than the faint glare of a green light they were burning.

"Transferring 1,700 frightened passengers from one ship to another in mid-ocean under these circumstances was no easy task. But we accomplished it without mishap, and then came the long, weary, never to be forgotten voyage back to New York. It seemed as if we were sailing in the clouds. It was the worst fog in all my experience.

"I remember once in my younger days before the mast when the old wind jammer I was on was beating around the Horn in a storm that would fairly make your eyebrows crawl the heavens turned hideously black—blacker than anything you can possibly imagine. We had been pitched and tossed hither and thither about the raging sea for hours, but thought little of it because we had become accustomed to bad weather on such voyages.

"Well, all of a sudden we took a plunge. For a moment it seemed as if the very mouth of hell had opened and swallowed the whole ocean. Down and down we went; it seemed we'd never stop—just the sort of sensation you would probably experience if you were in an elevator at the top of some tall building and the cable should suddenly snap and send the car crashing to the basement. We were all rolling around on our heads, mouths open and speechless, and the old ship itself was rattling and cracking so fiercely that it appeared about ready to break and scatter into a million pieces.

"But it was all over in less time than it takes me to tell of it. Whether or not we struck bottom I don't know, but presently the old craft righted and her nose pointed upward. I heaved a sigh of relief and the others did likewise. We were never able to figure out just what had happened, unless there was some sort of seismic disturbance.

"Well, that was one of the times I looked old Davy Jones squarely in the face, only to cheat his locker in the end. The other time when I felt like calling on him was after I had stood in the fog on the bridge of the Baltic fifty or sixty hours."

Capt. Ranson turned and faced the sun, which had just broken through the heavy mist of the morning. A small stone he carried as a watch charm sparkled brightly. To all appearances it was just an ordinary stone, but it had a history. The skipper himself seldom talks of it, but along the coast of southern California, and especially around the haunts of fishermen, the story is a familiar one.

To begin with, St. Nicholas Island, lying some ninety miles out in the Pacific on a crow's line from Los Angeles, is a barren waste composed of sand dunes. No one lives there and few ever go there. It was not until after he had aided in rescuing three half starved and all but lifeless fishermen who were adrift in an open boat that Capt. Ranson knew of the island's existence.

He was young then, but the lesson he learned was invaluable and may account in part for the wonderful power of endurance displayed by him in bringing the Baltic safely to port with her double cargo of human freight through a fog that would have shattered the nerves of many a navigator.

The three fishermen had set sail from the mainland one bright, sunshiny morning in a stout lugger, well provisioned for a week's sojourn on St. Nicholas. It was in the fall, and the usual squalls for that period were not infrequent. So that when a racing breeze swept the island on their second night out the fishermen thought nothing of it until it stiffened into a terrific storm which lasted two days and nights.

"We had pitched camp about a mile from our boat's anchorage," said one of the fishermen, "but the wind swept the island with such force that we had each to dig a hole in the sand and crawl in it. There was no time to think of the boat or anything else except to find a safe refuge from the storm.

"Toward morning we could feel the water trickling in upon us, and peering out we could see but two or three dots of sand to distinguish St. Nicholas from the great roaring sea itself. Our boat had been carried away; we were marooned! No food, no water to drink, and what clothing we had was drenched. And worse, we were ninety miles from the mainland, and no one knew where we were.

"Well, the storm abated after another day and night, and now we began to think of food, drink and how we were to get back to civilization. God! It was terrible! We were feverish from thirst; our throats were parched, and a sweltering California sun beat down upon the snow-white sand and added to our misery.

"We thought and thought and thought over a thousand plans, until it seemed as if our brains would burst. We gathered up dead fish that had been washed ashore by the storm and ate them ravenously. Then we sucked our thumbs to quench the burning thirst that all but drove us mad.

"I chanced to stumble over a piece of wood that protruded from the sand and fell flat on my face. In my weakened condition I believed for a moment I was done for. But somehow I managed to get up and turned to examine the obstacle over which I had tripped.

"I tried to pull it out of the sand, but failing in this dug around it with my hands. In a few seconds I found, to my great astonishment, that it was a boat—the very same one we had brought to the island with the lugger. My joy knew no bounds. I felt strong again and, rising to my full length, called to my comrades——"

Ten hours later a small, open boat with three lonely souls in it was being buffeted like a chip on the broad ocean swell. Two narrow strips, which had served as braces and oar racks, had been torn from the inside of the skiff. One of these was used to steer, the other was made fast to the bow with a white handkerchief knotted about it.

The fishermen say it was a young man named Ransom who first sighted their wave battered craft from the deck of one of the fast ships of the Pacific Navigation Company. Anyway, they give him the credit for having rescued them.

The little stone Capt. Ranson now wears is an emblem of endurance. It was picked up on St. Nicholas Island according to the story, and carried to sea in the small, open boat after the storm.

And strange though it may seem, one of the fishermen thus saved has since become an expert wireless operator. Not many years after his bitter experience on St. Nicholas Island they erected a little shanty at White's Point, a few miles from the growing port of San Pedro. The fishermen, who plied the coast for sardines, tuna and other articles of sea food, marvelled at the ingenious devices, which ticked message after message without the aid of wires to the shores of Catalina, which nestles in the ocean thirty miles from the mainland.

How to Preserve Street Surfaces; Street Sanding; Street Flushing; Hours for Street Cleaning; Garbage and Snow Removal